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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,365	07/10/2001	Fritz Gfeller	954-010306-US(PAR)	8852

7590 08/27/2002
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EXAMINER

LAU, TUNG S

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,365

Applicant(s)

GFELLER ET AL.

Examiner

Tung S Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-17, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☒ Claim(s) 1-19, 22 and 23 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Election/Restrictions

Combination/subcombination

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-17, 22 and 23, drawn to determining pulse position of a signal, classified in class 702, subclass 79.
 - II. Claim 18, drawn to determining quality of a signal, classified in class 702, subclass 79.
 - III. Claim 19, drawn to determining pulse position of a signal with channel multiplexing and deviation detector, classified in class 702, subclass 79.

The inventions are distinct, each from the other because of the following reasons:

Inventions of each of groups I-III groups i-v are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions can each be used for their respective uses has separate utility such as to determining pulse position of a signal. See MPEP § 806.05(d).

During a telephone conversation with David Aker on 8/8/02 a provisional election was made without traverse to prosecute the invention of group I, claim 1-12,22 and 23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 18 and 19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1-3, 5-11, 16-17 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford et al. (U.S. Patent 4,384,354) in view of Scholz et al. (U.S. Patent 5,325,397).

Crawford discloses an apparatus, method, computer program run on a computer and readable medium for determining a pulse position encoded by pulse modulation having first and second components, a determination unit comprising a probability prediction of the pulse position of the first and second components (fig. 1-10F, col. 2-5, lines 55-18), symbol of the first and second components, signal is pulse position (fig. 1), asymmetric forms probability (fig. 3-5), second component has no influence on the value, better quality than the second components, more than 2 dimensions storage is of ROM, RAM in a computer system (fig. 6), probability formula (col. 8-11).

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Crawford does not disclose a probability lookup table format, Scholz disclose such application for more than one class of link probability distribution (col. 4, lines 3-8, fig. 4, 10c).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Crawford to have the probability lookup table format taught by Scholz in order to use for more than one class of link probability distribution.

b. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Crawford as applied to claims above, and further in view of Rautiola et al. (U.S. Patent 5,949,775).

The Crawford combination disclose a method including the subject matter discussed above except the use of communication in the infrared region, Rautiola disclose such application and to direct visibility range the infrared link does not interfere with other similar connections and that IR does not reserve any radio frequencies (col. 7, lines 9-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Crawford to have the use of communication in the infrared region taught by Rautiola in order to direct visibility range the infrared link

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does not interfere with other similar connections and that IR does not reserve any radio frequencies.

c. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Crawford as applied to claims above, and further in view of Makram-Ebeid et al. (U.S. Patent 5,617,459).

The Crawford combination disclose a method including the subject matter discussed above except the use of 4-PPM modulation, Makram-Ebeid discloses such application to have a maximum probability of target selected (col. 16-17, lines 50-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Crawford to have the use of 4-PPM modulation taught by Makram-Ebeid in order to have a maximum probability of target selected.

d. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Crawford as applied to claims above, and further in view of Medvedev, VA, Vygoda (SU 822200B)

The Crawford combination disclose a method including the subject matter discussed above except the use of Bayer's probability, Medvedev, VA, Vygoda

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discloses such application to have a more reliable probability formula system (page 1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Crawford the use of Bayer's probability taught by Medvedev, VA, Vygoda in order to have a more reliable probability formula system.

Allowable Subject Matter

3. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: Prior art fail to show the detecting means of an illegal symbol in a logic circuit with the probability table.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309.

The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John S Hilten can be reached on 703-308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TL

August 12, 2002



JOHN S. HILTEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800